

**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
Honolulu, Hawaii**

180-Day Exp. Date: March 13, 2010

November 19, 2009

**Board of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii**

REGARDING: Conservation District Use Application (CDUA) MA-3526
for the Lahaina Watershed Flood Control Project

APPLICANT: County of Maui, Department of Public Works and
Environmental Management

LANDOWNER: State of Hawaii

LOCATION: Waianukole, Lahaina, Maui and adjacent submerged lands

TMK: (2) 4-7-001:018

USE: 2400 square feet

SUBZONE: Limited and Resource

BACKGROUND:

The Board of Land and Natural Resources approved Conservation District Use Permit (CDUP) MA-3204 on January 28, 2005, for the proposed project. No work was initiated within a year of the approval and the permit expired.

The Lahaina Watershed Flood Control Project, on the island of Maui, is intended to reduce flooding and erosion problems on land and to relieve the effects of excess sedimentation on the near shore coral reefs. This project was developed through a collaborative effort with the County of Maui, Department of public works and Environmental Management (DPWEM) and the West Maui Soil and Water Conservation District (WMSWCD) in partnership with the U.S. Department of Agriculture (USDA), and the Natural Resources Conservation Service (NRSC).

The projects design concept involves the construction of a floodwater diversion system that traverses through forty-two acres of Agricultural, Urban, and Conservation State Land Use Districts. There is an existing outlet at Puamana Channel. The proposed second outlet at the shoreline of Waianukole lies within the Conservation District (EXHIBIT 1 & 2).

DESCRIPTION OF AREA AND CURRENT USE

The proposed project site within the Conservation District appears to lie within the Limited subzone by land and the Resource subzone in submerged waters. The proposed project is located within and adjacent to TMK (2) 4-7-001:018 owned by the State of Hawaii.

According to the applicant, the Honoapiilani Highway right of way occupies the parcel. This parcel was graded prior to the construction of the Honoapiilani Highway. The shoreline in the area of the proposed second drainage outlet is mostly rocky, with only narrow deposits of sand and virtually no sand backshore with deposits of mostly rounded stones and rocky outcrops. Inland from the shore is an eroding embankment that rises steeply to the highway (EXHIBIT 3).

Directly off shore rounded cobbles predominate the area. This biotope extends out to a depth of less than two feet. Although larger stones are sometimes coated with algae, movement of the sands and the stones whenever large waves break makes this unstable bottom unsuitable for all but a few marine organisms. One species of coral was found here along with 11 species of algae. The rolling sand biotope is approximately 650 feet offshore from the outlet. No species of coral were found here, however many species of limu were noted where outcrops rise above the sand. Few fish or marine macroinvertebrates were present in this biotope.

Further offshore, the flat limestone biotope occurs where the water depth may range from 4 to 8 feet. This biotope is subject to the forces of rolling surf. There is sparse coral growth and ten species of algae were recorded here. 19 fish species and four macroinvertebrate species were observed in this biotope. The spur and groove biotope oriented perpendicular to the shore is located on the outer face of the limestone biotope at depths exceeding 15 feet. There were 22 fish species recorded and five species of macroinvertebrates.

Limu kohu and *limu lipoa*, two culturally important species of limu were found near the second outlet. Avifauna in the region include introduced species of Japanese White-eye, Zebra Dove, Cardinal, Spotted dove, and Common Myna. Indigenous species found within the vicinity of the project site include the Golden Plover or Kolea, the Night Heron. Neither one of these are listed as federally endangered, however both are protected under the Migratory Bird Treaty Act (MBTA)). The endemic Hawaiian Owl or Pueo has also been observed within the vicinity of the project site. The Pueo is also protected under the MBTA and is also listed as endangered by the State of Hawaii. Other mammals common to the project area include rats, mice, and mongoose.

The only known plant or animal species listed or proposed by the federal government as endangered in or near the proposed project area are the Hawaiian green sea turtle and the Humpback whale.

According to local residents, Hawaiian green sea turtle are frequently sighted along the Lahaina coastline. An important resource in the intertidal habitat fronting the project site is the locally developed stands of algae, which is an important forage food for the threatened turtle. Five marine algae known to serve as forage for the green turtle exist at the project site outfall and are among the most common widely distributed algae, in the Hawaiian Islands.

Endangered Humpback whales are seasonally present in near shore waters from approximately December through May. Calf rearing and reproductive activities often occur in proximity to the reefs fronting the watershed.

PROPOSED USE

The proposed use is to mitigate flooding as flooding is a major problem in the Lahaina area and causes income loss and cost to homes, infrastructure, businesses, and agriculture. Sedimentation and floodwater runoff is also recognized as a threat to the coral reef and marine ecosystems.

The majority of the project is composed of grass-lined diversion channels. The proposed project also includes the construction of an inlet basin and three sediment basins. The floodwater diversion system from Kauaula Stream to the second outlet consists of 3,600 feet of grass-lined waterway, a sediment basin, a culvert under Honoapiilani Highway, and a discharge outlet at the shoreline of Waianukole (**Exhibit 4**).

This site was chosen because there is less species diversity, is less environmentally sensitive, and is less important economically than the shore front of Lahaina Town (Front Street beaches), or the Kauaula Stream outlet at Makila Point.

The channel cross section is designed to be trapezoidal with a 65-foot bottom width and an average depth of 10-14 feet. The channel will be set at an approximate grade of 0.05% and flow into a rock riprap sediment basin 300' long and 58' wide. The culvert under Honoapiilani highway is proposed to be a 4-bay box culvert approximately 48' wide and 11' high. The runoff will then flow onto a concrete apron and a rock riprap spillway that will extend makai of the certified shoreline (**Exhibit 5**).

According to the applicant, the second outlet will flow only during heavy rainfall events, so there will be long periods when the outlet will have no effect on the offshore biota. Studies conducted in 1991 and in 2002 have concluded that the proposed project will not adversely impact the green sea turtle or humpback whale.

The shoreline in the area of the proposed second drainage outlet is mostly rocky, with only narrow deposits of sand and virtually no sand backshore where turtles might lay

eggs. Turtles would utilize this area only for feeding on limu offshore. According to the applicant, changes in the abundance and types of limu due to the second outlet will likely occur over a limited area that should not significantly affect the turtle population.

The Humpback Whale would never inhabit the shallow near shore waters directly off the proposed drainage outlet or the waters close in where turbidity, influenced by runoff might be high. According to the applicant, the impact on the waters offshore where whales seasonally occur should be one of no change or improved water quality.

A qualified archaeological monitor will be present during all ground-altering activities to document any historic properties that may be encountered during the proposed undertaking. There is a Memorandum of Agreement between the United States Department of Agriculture, the Natural Resources Conservation Service (NRCS), and the State Historic Preservation Division (SHPD) in which the NRCS shall consult with SHPD during the design and installation of each phase of the project.

According to the applicant, the proposed project is estimated to reduce total annual sediment outflow by approximately 25%. The proposed project will result in a net beneficial impact to the near shore reef ecosystem resulting from an estimated total sediment discharge reduction of approximately 1,320 tons per year throughout the project area. The proposed outlet at Waianukole will cause an impact over a smaller near shore area than currently impacted by sediment discharge.

However, the current 310 tons of sediment per year discharged at the channeled stream of Puamana will be diverted to the Waianukole shoreline outlet, where discharge will increase to 3,280 tons per year.

According to a report generated by Sea Engineering, "Most of the suspended sediment in the discharge will move offshore with the discharge plume, however, a general increase in turbidity can be expected. High wave events should help to re-suspend and disperse turbidity-causing silts and clays. In the long term, new beaches may form in the vicinity due to the influx of sandy sediment from the discharge."¹

ANALYSIS

After reviewing the application by correspondence dated September 17, 2009, the Department has found that:

1. The proposed use is an identified land use in the Resource subzone of the Conservation District, according to § 13-5-22, Hawaii Administrative Rules (HAR), P-6, PUBLIC PURPOSE USES, D-1, "land uses undertaken by the State of Hawaii or the counties to fulfill a mandated governmental function, activity, or service for public benefit and in accordance with public policy and the purpose of

¹ Sea Engineering. (2004) Coastal Processes, Marine Water Quality, and Nearshore Biological Investigation for the Lahaina Watershed Flood Control Project September, 2002.

- the conservation district. Such land uses may include transportation systems, water systems, communications systems, and recreational facilities." Please be advised, however, that this finding does not constitute approval of the proposal;
2. Pursuant to § 13-5-40 of the Hawaii Administrative Rules, a Public Hearing will not be required;
 3. In conformance with Chapter 343, Hawaii Revised Statutes (HRS), as amended, and Chapter 11-200, HAR, the Final Environmental Impact Statement has been reviewed and accepted in accordance with the National Environmental Policy Act and was published in the May 23, 2004 Environmental Notice.
 4. On June 22, 2004, the Maui Planning Commission granted a Special Management Area Use Permit and Shoreline Setback Variance.

Notice of this application was published in the October 8, 2009 publication of the Environmental Notice. No additional comments were received in regards to this resubmitted application.

CONSERVATION CRITERIA

The following discussion evaluates the merits of the proposed land use by applying the criteria established in Section 13-5-30, HAR.

1. *The proposed land use is consistent with the purpose of the Conservation District.*

The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare.

The proposed project is needed to mitigate the damaging and life-threatening effects of major storms that flood the Lahaina Town area. The project will reduce the adverse impacts of sediment-laden storm waters to the nearby marine environment.

2. *The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur.*

The objective of the Limited subzone is to limit uses where natural conditions suggest constraints on human activities. The objective of the Resource subzone is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas.

The Lahaina Flood Control Watershed Project is considered an identified land use in the subject area of the Conservation District; as such, it is subject to the

regulatory process established in Chapter 183C, HRS and detailed further in Chapter 13-5, HAR. This process provides for the application of appropriate management tools to protect the relevant resources, including objective analysis and thoughtful decision-making by the Department and Board of Land and Natural Resources.

3. *The proposed land use complies with provisions and guidelines contained in Chapter 205, HRS, entitled "Coastal Zone Management," where applicable.*

Staff believes the proposed project complies with provisions and guidelines contained in Chapter 205, HRS regarding Coastal Zone Management. Lateral access along the shoreline will not be impacted; archaeological monitoring will be conducted during construction; no significant public views will be impacted and the project has been designed to minimize grading; and Best Management Practices (BMPs) will be implemented to minimize potential impacts to coastal ecosystems during construction.

On June 22, 2004, the Maui Planning Commission granted a Special Management Area Use Permit and Shoreline Setback Variance.

4. *The proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community, or region.*

Staff believes during construction, the proposed land use may cause substantial adverse impacts to existing natural resources within the surrounding area of the second outlet at Waianukole. However, the overall sediment discharge in the project area will decrease and improve water quality and the environmental conditions of the coral reef ecosystem and the marine resources. This project lessens floodwater sedimentation impact along the Lahaina coastline but increases the impact to a smaller area where marine resources are not as significant.

5. *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding area, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

The proposed project will not create adverse impacts to the physical conditions or capabilities of the affected parcels. The project area is a steep slope adjacent to a Highway. This area has been previously graded and affected.

6. *The existing physical and environmental aspect of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, which ever is applicable.*

The project area is a steep slope adjacent to a Highway. This area has been previously graded and affected. Ocean view planes and the open space characteristics will not be affected.

7. *Subdivision of the land will not be utilized to increase the intensity of land uses in the Conservation District.*

There will be no subdivision of land for this proposed project.

8. *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

The implementation of the proposed land use will act to protect both life and property. The proposed use is to mitigate high rainfall events and control flooding. The proposed Flood Control Project will help to protect public health, safety and welfare.

DISCUSSION

The proposed use is to mitigate flooding. Flooding is a major problem in the Lahaina area and causes income loss and cost to homes, infrastructure, businesses, and agriculture. Sedimentation and floodwater runoff is also recognized as a threat to the coral reef and marine ecosystems.

Within the Lahaina Watershed area, the project's diversion channels will recourse waters through four sediment basins, a debris basin and grass lined channels. This should result in a 25% decrease or a reduction of 1,320 tons annually in sedimentation introduction to coastal waters off of the region of Lahaina.

Change to Waianukole will come by sedimentation introduction to its coastal waters. Sedimentation is projected to increase by over 3,000 tons annually. In the long term, new beaches may form in the vicinity due to the influx of sandy sediment from the discharge.

The proposed project will have an impact on the offshore resources located at the second outfall. Commonly found limu resources, endangered turtle's and a cultural food resource, will be impacted near the vicinity of the second outfall. However, changes in the abundance and types of limu due to the second outlet will likely occur over a limited area that should not significantly affect the turtle population. The impact on the waters offshore where whales seasonally occur should be one of no change or improved water quality.

While there may be a localized increase in impacts at Waianukole, there should be a net improvement in the region of Lahaina stemming from a total reduction in discharge. The proposed outlet at Waianukole will cause an impact over a smaller near shore area than currently impacted by high rainfall events sediment discharge. Overall, the public's health, safety and welfare increase with the proposed project.

RECOMMENDATION:

Based on the preceding analysis, staff recommends that the Board of Land and Natural Resources APPROVE this application for the Lahaina Watershed Flood Control Project located at Waianukole, District of Lahaina, island of Maui, TMK: (2) 4-7-001:018 subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules, regulations, and conditions of the Federal, State, and County governments, and applicable parts of the Hawaii Administrative Rules, Chapter 13-5;
2. The applicant, its successors and assigns, shall indemnify and hold the State of Hawaii harmless from and against any loss, liability, claim or demand for property damage, personal injury or death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors and agents under this permit or relating to or connected with the granting of this permit;
3. The applicant shall obtain appropriate authorization from the Department for the occupancy of State lands;
4. The applicant shall comply with all applicable Department of Health administrative rules;
5. Before proceeding with any work authorized by the Board, the applicant shall submit four (4) copies of the construction and grading plans and specifications to the Chairperson or his authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three (3) of the copies will be returned to the applicant. Plan approval by the Chairperson does not constitute approval required from other agencies;
6. Any work done or construction to be done on the land shall be initiated within two years of the approval of such use, in accordance with construction plans that have been signed by the Chairperson, and, unless otherwise authorized, shall be completed within six (6) years of the approval. The applicant shall notify the Department in writing when construction activity is initiated and when it is completed;
7. All representations relative to mitigation set forth in the accepted environmental impact statement for the proposed use are incorporated as conditions of the permit;
8. A monitoring program of the project area shoreline shall be implemented to establish post-construction conditions and to determine if more specific mitigation measures shall be warranted.

9. An Archaeological Monitoring Plan shall be submitted and approved by the State Historic Preservation Division prior to approval of subsequent construction plans;
10. The applicant understands and agrees that this permit does not convey any vested rights or exclusive privilege;
11. In issuing this permit, the Department and Board have relied on the information and data that the applicant has provided in connection with this permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Department may, in addition, institute appropriate legal proceedings;
12. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the applicant shall be required to take the measures to minimize or eliminate the interference, nuisance, harm, or hazard;
13. Should historic remains such as artifacts, burials or concentration of charcoal be encountered during construction activities, work shall cease immediately in the vicinity of the find, and the find shall be protected from further damage. The contractor shall immediately contact HPD (692-8015), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary;
14. The applicant acknowledges that the approved work shall not hamper, impede or otherwise limit the exercise of traditional, customary or religious practices in the immediate area, to the extent such practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law;
15. Use of the area shall conform with the program of appropriate soil and water conservation district or plan approved by and on file with the department;
16. During construction, appropriate mitigation measures shall be implemented to minimize impacts to the marine environment, off-site roadways, utilities, and public facilities;
17. The applicant shall plan to minimize the amount of dust generating materials and activities. Material transfer points and on-site vehicular traffic routes shall be centralized. Dusty equipment shall be located in areas of least impact. Dust control measures shall be provided during weekends, after hours and prior to daily start-up of project activities. Dust from debris being hauled away from the project site shall be controlled. Landscaping and dust control of cleared areas will be initiated promptly;
18. Cleared areas shall be re-vegetated within thirty days of the completion of construction unless otherwise provided for in a plan on file with the Department.

19. Other terms and conditions as may be prescribed by the Chairperson; and
20. Failure to comply with any of these conditions shall render this Conservation District Use Permit null and void.

Respectfully submitted,

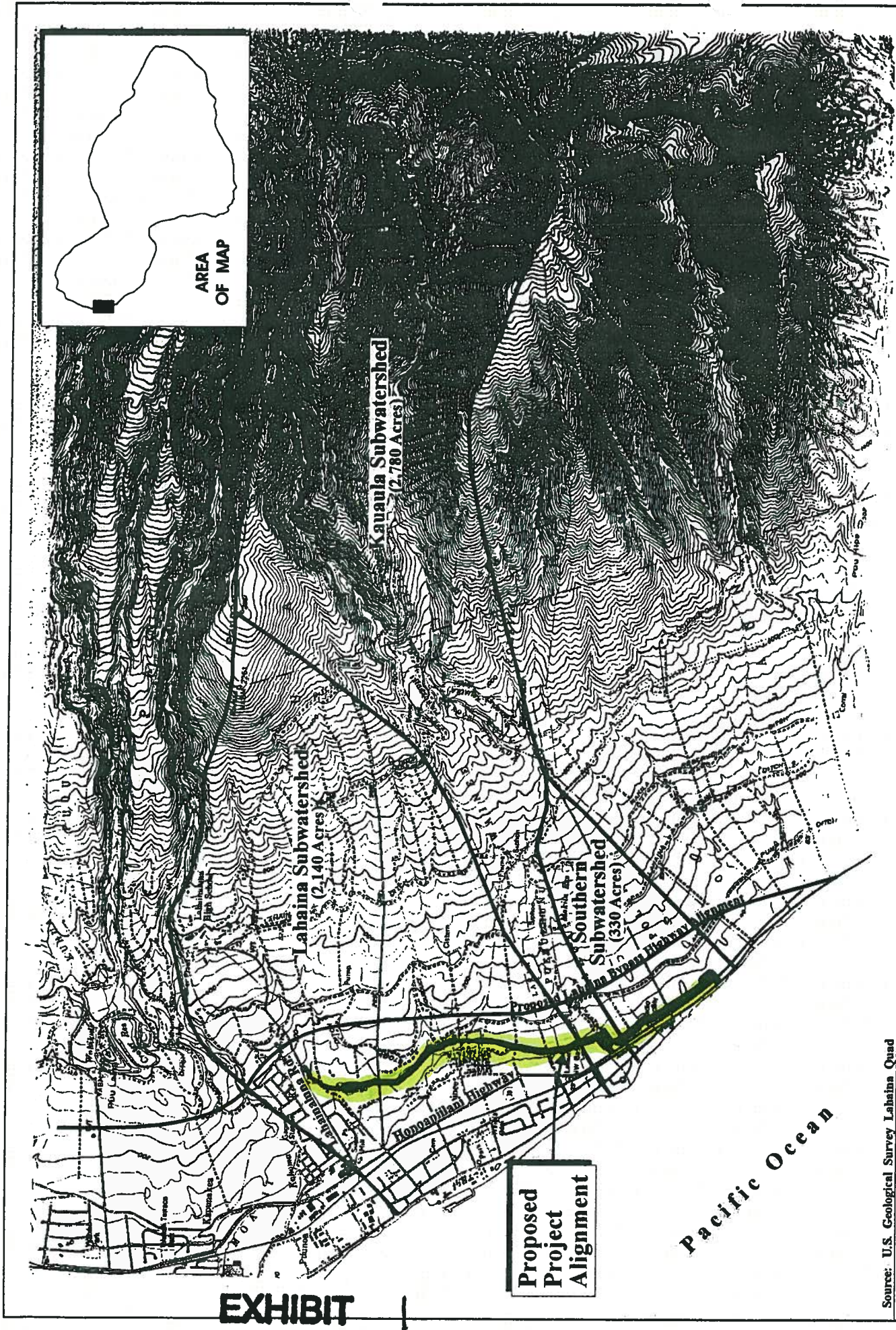


K. Tiger Mills, Staff Planner
Office of Conservation and Coastal Lands

Approved for submittal:



Laura H. Thielen, Chairperson
Board of Land and Natural Resources



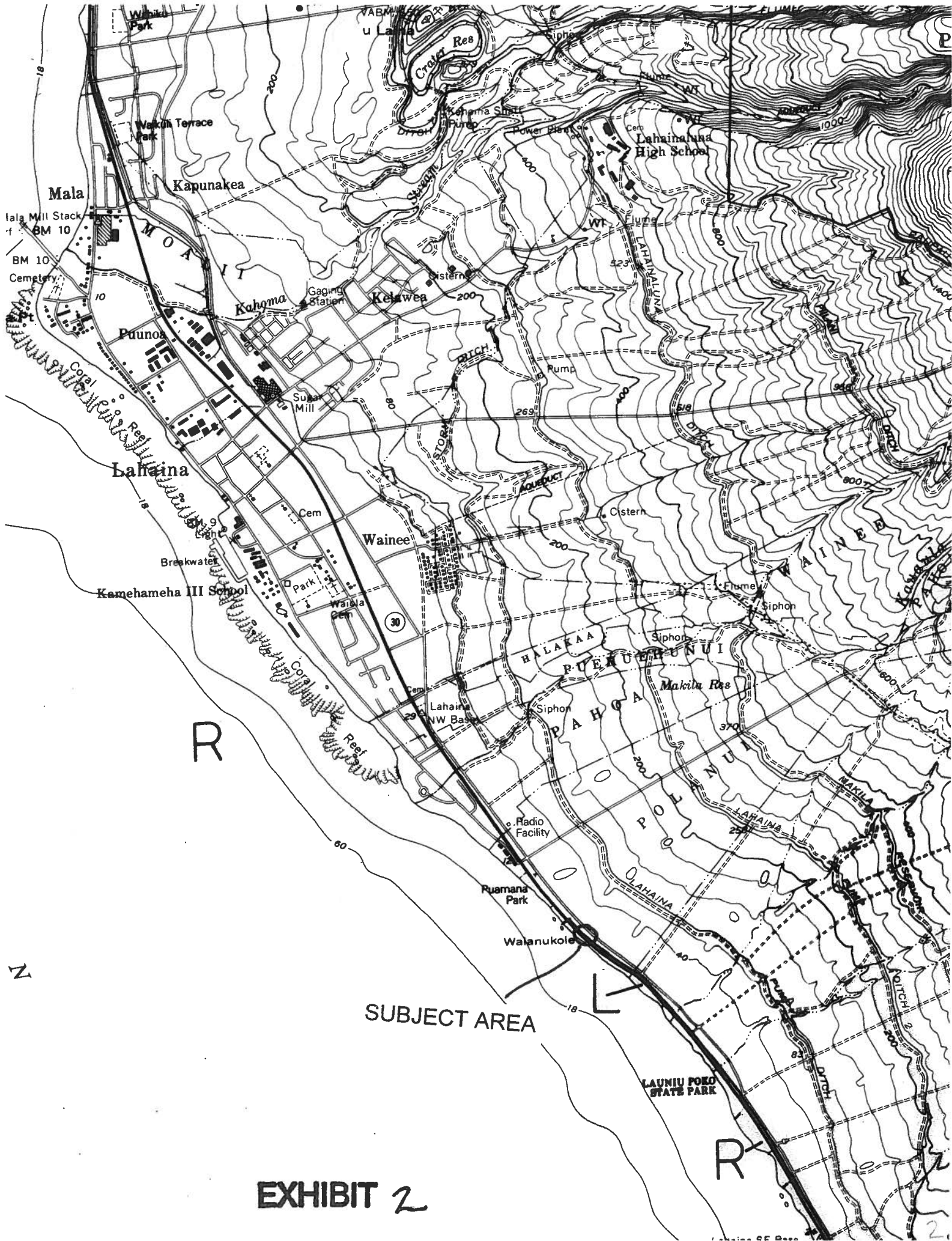
Source: U.S. Geological Survey Lahaina Quad

Figure 1

Lahaina Watershed Flood Control Project
Regional Location Map

NOT TO SCALE





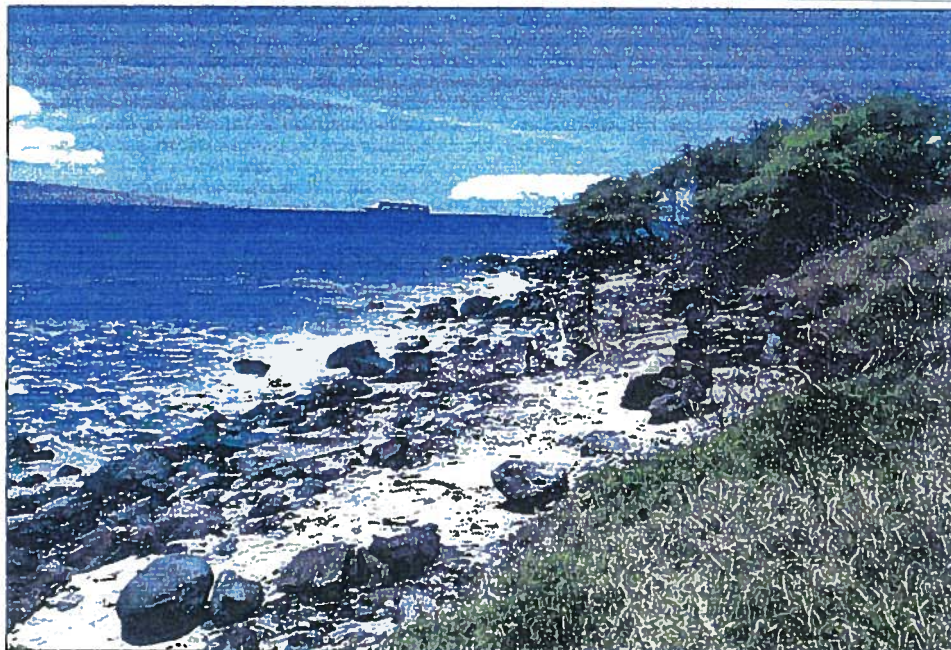


Figure 3-5 – Rocky Shoreline at Second Outlet Location, Waianukole



Figure 3-6 – Ash-Flow Substrate at Second Outlet Location

Source: USDA, Soil Conservation Service

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Lahaina Watershed Flood Control Project Project Location Map

Prepared for: County of Maui, Department of Public Works and Environmental Management



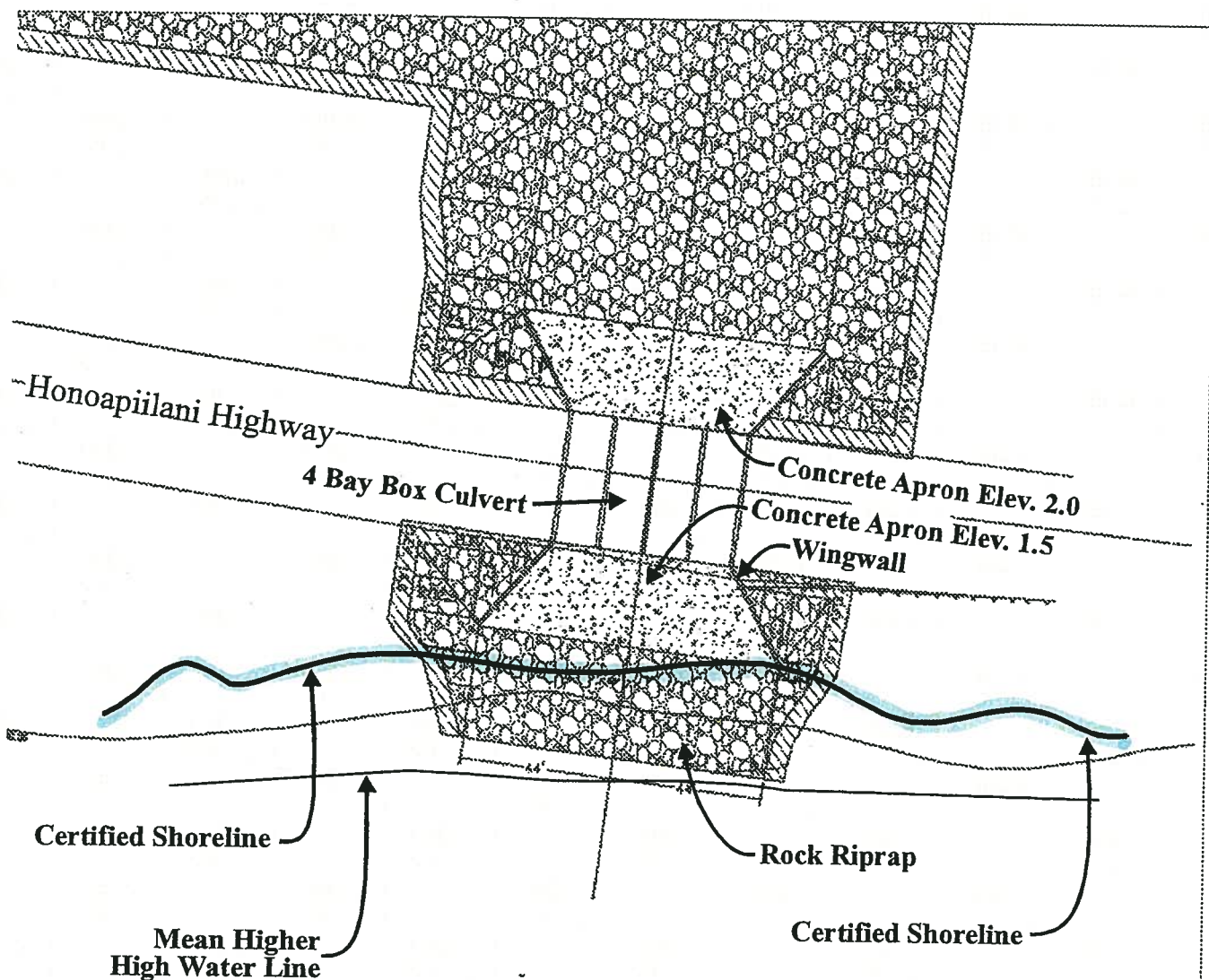
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MURKIN & MIRAGE, INC.

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EXHIBIT 4



Source: USDA, Natural Resources Conservation Service

Figure 6

Lahaina Watershed
Flood Control Project
Second Outlet Location in
Relation to the Shoreline

NOT TO SCALE

